LAND DISPOSAL RESTRICTIONS

Chapter IV, pages 4 & 9

1. INTRODUCTION.

a. **The land disposal restriction (LDR) regulations are found in 40 CFR 268**. The basic components of the LDR program are relatively straightforward. For each hazardous waste, EPA has established a treatment standard or a specific treatment method that is determined to be protective of human health or the environment. Hazardous waste must be treated to this standard or by the specific method before the waste can be land disposed. Generators are responsible for identifying their waste to comply with the LDR requirements. Additional paperwork (LDR Notification Form) is required with the manifest when these wastes are shipped offsite. This paperwork notifies those who will handle the waste of the land disposal restriction requirements and may include a certification by the generator. In addition, there are also storage and recordkeeping requirements associated with the LDR program.

b. EPA land disposal restrictions do not apply overseas, except for U.S. territories (i.e., Guam, Puerto Rico)

NOTE: When OCONUS DRMOs are retrograding HW to CONUS DRMOs, check with the gaining DRMO for instructions.

2. **WASTES SUBJECT TO THE LAND DISPOSAL RESTRICTIONS**. Most hazardous wastes are now subject to the land disposal restrictions. Wastes subject to LDR requirements are known as restricted wastes. This includes wastes that meet a characteristic or are listed, and also includes special hazardous wastes such as soils, debris, and lab packs.

3. **WASTES NOT SUBJECT TO THE LAND DISPOSAL PROHIBITIONS.** Not all wastes are subject to the land disposal requirements. Normally under RCRA, when new wastes are first identified as hazardous (.i.e., “newly identified” or “newly listed” hazardous wastes) LDR standards are not immediately established. These wastes must be managed as hazardous wastes but do not have to comply with LDR requirements before they are disposed. Usually at a later date, EPA will establish treatment standards for these wastes and then they become subject to LDR requirements.

4. **WASTE IDENTIFICATION, WASTE CODES, AND HAZARDOUS CONSTITUENTS**.

a. Hazardous waste must be identified in sufficient detail to permit the identification of applicable waste codes, regulated hazardous constituents, and/or underlying hazardous constituents. The LDR program requires that all waste codes that apply to a waste be identified and the waste treated for each waste code. An exception is made for listed wastes where a constituent that would cause a waste to meet a characteristic is addressed in the listed waste’s treatment standard. For example, benzene, a U-listed waste (U019) would not require the identification of the D018 (TCLP benzene) waste code because the treatment standards for U019 addresses the benzene hazardous constituent.

b. For listed wastes (i.e., F, K, P, or U), the LDR identification requirements include:

(1) the regulated listed hazardous constituent(s) identified in 40 CFR 268.40 that are present in the waste; and,

(2) other hazardous constituent(s) present that would give the waste a characteristic waste code and is not listed as a constituent in the table in 40 CFR 268.40. For example: a spent degreasing solvent contaminated with lead above the TCLP level would require the assigned waste codes of F001 and D008; and,

(3) if a listed waste possesses a RCRA waste characteristic that is not identified as a regulated hazardous constituent in 40 CFR 268.40, then any underlying hazardous constituents present above the regulatory level in the table in 40 CFR 268.48 need to be identified. For example: a spent solvent that is contaminated with vinyl chloride above the TCLP level would be assigned the waste codes of F003 and D043. The D043 waste code is assigned because vinyl chloride is not listed as a regulated hazardous constituent for a F003 waste in 40 CFR 268.40. Furthermore, because the waste meets the characteristic for D043, any underlying hazardous constituent listed and above the regulatory level in 40 CFR 268.48 and is not a hazardous constituent identified in 40 CFR 268.40 for F003 wastes must be identified

c. For characteristic wastes, the LDR identification requirements include:

(1) characteristic waste codes that apply to the waste; and,

(2) depending on the treatment method or treatment standard in 40 CFR 268.40, any underlying hazardous constituents listed in 40 CFR 268.48 that are present above the level in the table. **Any treatment method or standard in 40 CFR 268.40 that contains the phrase: "& meet 268.48 standards" requires the identification of underlying hazardous constituents.**

d. DRMOs will coordinate with their contractor to determine if any wastes must be treated/managed by a method where the identification of underlying hazardous constituents apply. If a waste requires the identification of underlying hazardous constituents, DRMOs must inform the generator that this identification is needed if sufficient information is not included on the Hazardous Waste Profile Sheet. The following summarizes when the identification of hazardous underlying constituents is or is not required:

- Characteristic wastes that are decharacterized and managed in Clean Water Act (CWA)/CWA-equivalent, or Class I Safe Drinking Water Act (SDWA) facilities <u>do not</u> require the identification of underlying hazardous constituents.

- Characteristic wastes that are managed in non-Clean Water Act (CWA)/non-CWA-equivalent, or non-Class I Safe Drinking Water Act systems (underground injection), <u>will require</u> the identification of the underlying hazardous constituents unless the disposal facility monitors for all underlying hazardous constituents listed in 40 CFR 268.48.

- Wastes that possess a D001 characteristic only, and will be treated by combustion (CMBST) or recovery of organics (RORGS) <u>do not</u> require the identification of underlying hazardous constituents.

- TC pesticide (D012-D017) and TC organic (D018-D043) that will be treated by CMBST or RORGS require the identification of the underlying constituents unless the TSDF monitors for all underlying hazardous constituents.

e. Identification of Underlying Hazardous Constituents. Only underlying hazardous constituents that are **"reasonably expected to be present"** need to be determined. Generators do not have to determine the presence or absence of all underlying hazardous constituents listed in the table in 40 CFR 268.48. The determination of underlying hazardous constituents may be based on: knowledge of the raw materials used; the process they operate; the potential reaction products of the process; or, a one-time analysis for the entire list of constituents listed in the table in 40 CFR 268.48.

5. **DETERMINATION OF TREATMENT STANDARDS**.

a. Universal Treatment Standards. The LDR treatment standards are consolidated into one table at 40 CFR 268.40 entitled "Treatment Standards for Hazardous Wastes". The treatment standards listed in this table are based on the "Universal Treatment Standards" (UTS) found in 40 CFR 268.48. The purpose of the UTS is to set a single universal treatment standard for: 1) each constituent identified in waste waters; and, 2) each constituent identified in non-waste waters that previously had a numerical treatment standard. The effect was to standardize treatment standards for the same constituents regardless of which waste the constituent is contained.

b. To determine which treatment standards/methods apply to a waste, the steps below should be followed. This information will be needed to complete the LDR notification form (see paragraph 6). Use the waste profile sheet (provided by the generator), the MSDS, or copies of waste analysis to obtain the information needed.

(STEP 1) The waste must be a RCRA waste (i.e. meet a characteristic or be listed). If the waste does not meet the definition of a RCRA hazardous waste, it is not subject to the LDR requirements.

(STEP 2) Determine all appropriate waste codes (listed or characteristic) in accordance with paragraph P4 above. If a waste possess several characteristics, all characteristics waste codes (D001-D043) must be identified. Some listed wastes (F, K, P, or U) can also possess certain RCRA characteristics and these waste codes must also be identified.

(STEP 3) Determine if the waste is either a wastewater or nonwastewater based on the definition in 40 CFR 268.2. Almost all hazardous wastes handled by DRMOs will fall into the nonwastewater category. A wastewater is generally defined as a waste containing less than 1% total organic carbon (TOC) and less than 1% total suspended solids (TSS). If it doesn't meet the wastewater definition, it is a nonwastewater

(STEP 4) For each applicable waste code, determine if there is a subcategory to the waste code that applies. This is obtained by referring to the table in 40 CFR 268.40. There are several types of subcategories. For example, subcategories can exist based on concentration (e.g. high-TOC subcategory for D001, or low mercury subcategory for D009): or, for the source of the waste (e.g. D008-lead batteries subcategory)

(STEP 5) Some wastes will require the identification of hazardous constituents or underlying hazardous constituents. This will depend on: 1) how the waste will be disposed; and /or, 2) the type of monitoring being performed by the TSDF. Refer to the tables in 40 CFR 268.40 and 268.48. Also, see paragraph P4 for additional information.

(a) For certain characteristic wastes, the underlying hazardous constituents must be identified if the waste will be managed in a non-CWA facility or non Class I SDWA injection well under your disposal contract (40 CFR 268.48).

(b) For listed wastes, (i.e., F001-F005, F039,) the regulated hazardous constituents listed under the applicable waste code must be identified (40 CFR 268.40). Also, if the listed waste also possess a hazardous characteristic, then underlying hazardous constituents must also be identified (40 CFR 268.48).

NOTE: If the TSDF monitors for all constituents of concern (either all underlying hazardous constituents for characteristic wastes or all regulated hazardous constituents for listed wastes), the identification of the specific constituents is not required.

(STEP 6) Determine if the waste meets the treatment standards for the applicable waste code(s) from the table in 40 CFR 268.40. Wastes that exceed the standards in this table or have a treatment method identified must be treated.

(STEP 7) Prepare the paperwork associated with the LDR program. This includes the restricted waste notification and certification in 40 CFR 268.7 (DRMS Form 1851, generator form, or contractor equivalent).

6. **LDR NOTIFICATION REQUIREMENTS**.

a. When a land disposal restricted waste is shipped, a notification form must be provided with the manifest which tells the TSDF receiving the hazardous waste whether the waste has or has not been treated, and if treated, the degree of treatment. Specific information is required on this notification form but there is no mandatory form to be used. DRMS has a form (DRMS Form 1851, see pages 9-15 of this enclosure) which can be used. Also, disposal contractors and generators may have their own form. Any form may be used as long as it meets the requirements of 40 CFR 268.7. Electronic versions are permitted for use by EPA.

b. The notification requirement of the LDR program allows for a <u>one-time notification</u> for a HW shipment. The one time notification applies to shipments of all LDR restricted wastes and lab packs. A LDR notification is required with an initial shipment of hazardous waste to a treatment, storage, or disposal facility (TSDF). After this initial shipment, no additional notification is required to accompany shipments unless there is a change in the waste composition or TSDF that the waste is sent to. The generator shipping the waste and the TSDF that receives the waste must maintain a copy of each one-time notification.

c. When a DRMO receives a restricted waste from off-site, a LDR notification is required. This is the responsibility of the generating activity. A notification form must be attached to the initial incoming manifest. Unless the composition of the waste changes a LDR notification is not required for subsequent shipments of the same waste. The DRMO must maintain a copy of the notification.

d. The notification form requires certain information depending on the waste. The following table identifies what information is required on the notification form, depending on the waste.

Required Information	If waste/soil does not meet treatment standard 268.7(a)(2)	If waste/soil meets the treatment standard 268.7(a)(3)	If waste/soil is exempted from LDR 268.7(a)(4)	If waste is a lab pack under the alternative treatment standards 268.7(a)(9)
1. EPA hazardous waste numbers and manifest number of the first shipment	X	X	X	X
2. Statement: "This waste is not prohibited from land disposal"			X	
3. The waste is subject to LDRs. The constituents of concern for F001-F005 and F039, and underlying hazardous constituents in hazardous waste, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice.	X			
4. The notice must include the applicable waste water/nonwaste water category and subdivisions made within a waste code based on specific criteria.	X	X		
5. Waste analysis data (when available)	X	X	X	
6. Date the waste is subject to the prohibition.			X	
7. For debris, when treating with the alternative treatment technologies (268.45); the contaminants subject to treatment as described in 268.45(b); and an indication that these contaminants are being treated to comply with 268.45	X		X	
8. For contaminated soil subject to LDRs as provided in 268.49(a), the constituents subject to treatment as described in 268.49(d), and the following statement: This contaminated soil [does.does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by 268.49(c) or the universal treatment standards.	X			
9. A certification is needed (see applicable 268.7 section for exact wording, also paragraph 7 below		X		X

e. Characteristic hazardous wastes once decharacterized are not subject to the LDR notification and certification requirements except that a one-time notification and certification must be placed in the generators or treaters file and submitted to the EPA region or authorized state.

7. **CERTIFICATION REQUIREMENTS**. Under certain conditions, (i.e., if a waste already meets existing LDR treatment standards, soils, or for lab packs), the restricted hazardous waste notification will require a signed certification. The certification may be part of a notification form or may be separate but attached to the notification form. DRMS Form 1851 includes the various certifications that may need to accompany a restricted waste notification and the applicable certification(s) need only be checked. See row 9 in the table in paragraph 6 above to determine when a certification is required.

8. **LAB PACKS**. Lab packs are subject to the land disposal restrictions. Lab packs must be treated to the standards in 40 CFR 268.40 or they can be handled under the alternative treatment standards in 40 CFR 268.42(c). 40 CFR 268 Appendix IV lists the waste codes that are prohibited from going into a lab pack. If

lab packs are handled under the alternative treatment standard in 40 CFR 268.42(c), a lab pack LDR notification form must include the information in the table in paragraph 6 above. Also, a certification for lab packs is required. This certification can be found in 40 CFR 268.7(a)(9). In general, the certification states that the lab pack does not contain any wastes identified in Appendix IV to part 268.

9. **ALTERNATIVE LDR TREATMENT STANDARDS FOR SOIL CONTAMINATED WITH HAZARDOUS WASTE.**

The LDR regulations have established alternative treatment standards specifically tailored to soils contaminated with hazardous waste. These regulations can be found at 40 CFR 268.49. Generators of soil contaminated with hazardous waste have the option of complying with either these new soil treatment standards or the existing universal treatment standards in 40 CFR 268.48.

The alternative treatment standard establishes a treatment standard for soils of **"90% capped at 10xUTS**". This treatment standard requires that concentrations of hazardous constituents subject to treatment be reduced by 90% for given constituents. When treatment of any constituent subject to the 90 percent reduction standard would result in a concentration less than 10 times the universal treatment standard for that constituent, further treatment would not be necessary.

Not all soils being disposed are subject to LDR requirements. The disposal of contaminated soils must take into account certain factors before determining whether the soils require management under the LDR program. In general, contaminated soil is subject to the LDR standards only when it contains a listed hazardous waste or exhibits a characteristic of hazardous waste and the soil is: 1) generated (removed); and, 2) placed in a land disposal unit (disposed). For soils contaminated with listed wastes, it also depends on whether the listed waste was LDR prohibited at the time it contaminated the soil. 40 CFR 268.49 contains a table to assist in determining when LDRs apply to the disposal of contaminated soil.

The alternative soil treatment standards are designed to improve management of contaminated soil, especially remedial actions that involve the removal and disposal of soil. The treatment standards are technologically based and encourage the use of innovative technologies (i.e., soil washing). The treatment standards have been established so that treatment levels are achievable using a variety of common technologies that destroy, remove, or immobilize substantial amounts of hazardous constituents. Treatment may be achieved using any applicable treatment method except a treatment method involving impermissible dilution.

10. **DEBRIS.** Debris meeting the definition of a hazardous waste is subject to the land disposal restrictions. Debris may be treated in either of two ways: 1) Debris may be treated to meet the standards in 40 CFR 268.40; or 2) Debris may be treated to meet the alternative standards in 40 CFR 268.45.

11. **RECORD KEEPING.** All information on land disposal restrictions (notices, certifications, manifests, waste analysis or determination) must be kept for 3 years. Electronic versions of LDR notifications are permitted.

12. **STORAGE.** Restricted wastes must be marked with the date and EPA hazardous waste number when they are put into permitted storage. This date must be marked separately from the accumulation start date (when the 90-day time period begins). Restricted wastes in RCRA permitted storage can be stored for a maximum of 1 year to facilitate recovery, treatment or disposal. DRMOs without RCRA permitted storage can only store restricted hazardous waste for 90 days.

NOTIFICATION FOR WASTE RESTRICTED FROM LAND DISPOSAL

GENERATOR NAME:

MAILING ADDRESS:

US EPA NUMBER: | **MANIFEST NUMBER:**

MANIFEST LINE #	RCRA WASTE CODE	SUBCATEGORY CODE	TREATABILITY CODE	F-LISTED CONSTITUENT CODE	CALIFORNIA LIST WASTE CODE	UNDERLYING HAZARDOUS CONSTITUENT CODE

DIRECTIONS FOR COMPLETING THE LDR NOTIFICATION

1. Record on the notification the generator name, mailing address, US EPA ID number, and manifest number.
2. Record the manifest line item number.
3. List all RCRA waste codes for each manifest line item.
4. Record the subcategory code (from page 3), if applicable. If the waste does not have a subcategory code, record N/A in the block.
5. Record the treatability group code (from page 4).
6. If the waste is a F001 - F005 solvent, record all applicable F-Listed Constituent Codes (from page 4). If the waste is not a F001 - F005 solvent, record N/A in the block.
7. If the waste is a California List Waste, record the appropriate code (from page 4). If the waste is not a California List Waste, record N/A in the block.
8. If the waste is a D001 ignitable (except High TOC), D002, or D012 - D043, record all applicable underlying hazardous constituent codes (from pages 5 and 6). If the waste is not a D001 ignitable (except High TOC), D002, or D012 -D043, record N/A in the block.

DRMS FORM 1851, MAR 96 (EF)

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LDR CERTIFICATION

Select the most appropriate certification. Sign and date this form.

☐ I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR part 268, subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (40 CFR 268.7(a)(2)(ii))

☐ I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack does not contain any wastes at Appendix IV to part 268. I am aware that there are significant penalties for submitting a false certification including possibility of fine or imprisonment. (40 CFR 268.7(a)(8))

☐ I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (40 CFR 268.7(b)(5)(ii))

☐ I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibilty of fine and imprisonment. (40 CFR 268.7(b)(5)(iv))

☐ I certify under penalty of law that the debris have been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making a false certification, including the possibilty of fine and imprisonment. (40 CFR 268.7(d)(3)(iii))

Signature : _____ **Title:** _____ **Date:** _____

WASTE CODE SUBCATEGORIES

CODE	1	2	3	4	5
D001	HIGH TOC IGNITABLE	ALL OTHER IGNITABLES MANAGED IN NON-CWA/NON-CWA EQUIVALENT/NON-CLASS I SDWA SYSTEMS	ALL OTHER IGNITABLES MANAGED IN CWA/CWA EQUIVALENT/CLASS I SDWA SYSTEMS		
D002	CORROSIVE WASTES MANAGED IN NON-CWA/NON-CWA EQUIVALENT/NON-CLASS I SDWA SYSTEM	CORROSIVE WASTES MANAGED IN CWA/CWA EQUIVALENT/ CLASS I SDWA SYSTEMS			
D003	REACTIVE CYANIDES	REACTIVE SULFIDES	EXPLOSIVES	WATER REACTIVES	OTHER REACTIVES
D006	CADIUM CONTAINING BATTERIES				
D008	LEAD ACID BATTERIES				
D009	HIGH MERCURY-ORGANIC (NONWASTEWATER)	HIGH MERCURY - INORGANIC (NON-WASTEWATER)	LOW MERCURY (NON-WASTEWATER)	MERCURY CONTAINING WASTEWATER	
P047	4,6 DINITRO-O-CRESOL	4,6 DINITRO-O-CRESOL SALTS			
P065	NON-INCINERATOR OR NON-RMERC RESIDUES	INCINERATOR OR RMERC RESIDUE > OR EQUAL TO 260 MG/KG TOTAL MERCURY	RMERC RESIDUE < 260 MG/KG TOTAL MERCURY	INCINERATOR RESIDUE < 260 MG/KG TOTAL MERCURY	ALL WASTEWATERS
P092	NON-INCINERATOR OR NON-RMERC RESIDUES	INCINERATOR OR RMERC RESIDUE > OR EQUAL TO 260 MG/KG TOTAL MERCURY	RMERC RESIDUE, < 260 MG/KG TOTAL MERCURY	INCINERATOR RESIDUE < 260 MG/KG TOTAL MERCURY	ALL WASTEWATERS
U151	HIGH MERCURY	RMERC RESIDUES, < 260 MG/KG TOTAL MERCURY	NON-RMERC RESIDUES, < 260 MG/KG TOTAL MERCURY	ALL WASTEWATERS	
U240	2,4-DICHLOROPHENOXYACETIC ACID	2,4-DICHLOROPHENOXYACETIC ACID SALTS AND ESTERS			
F003 and/or F005	SOLVENT WASTE CONTAINING ONLY F-LISTED SOLVENTS CARBON DISULFIDE, CYCLOHEXANONE AND/OR METHANOL	F005 SOLVENT WASTE CONTAINING 2-ETHOXYETHANOL AS THE ONLY LISTED F001-5 SOLVENT	F005 SOLVENT WASTE CONTAINING 2-NITROPROPANE AS THE ONLY LISTED F001-5 SOLVENT		

F-LISTED CONSTITUENT CODES

CODE	CONSTITUENT	CODE	CONSTITUENT
1	Acetone	15	Methanol
2	Benzene	16	Methylene Chloride
3	N-Butyl Alcohol	17	Methyl Ethyl Ketone
4	Carbon Disulfide	18	Methyl Isobutyl Ketone
5	Carbon Tetrachloride	19	Nitrobenzene
6	Chlorobenzene	20	Pyridine
7	Cresol (B,M, or P Isomers)	21	Tetrachloroethylene
8	Cresylic Acid	22	Toluene
9	Cyclohexanone	23	1,1,1 Trichloroethane
10	o-Dichlorobenzene	24	1,1,2 Trichloroethane
11	Ethyl Acetate	25	1,1,2 Trichloro- 1,2,2 Trifluoroethane
12	Ethyl Benzene	26	Trichloroethylene
13	Ethyl Ether	27	Trichloromonofluoromethane
14	Isobutyl alcohol	28	Xylenes Mixed Isomers

CALIFORNIA LIST WASTE CODES

CODE	CONSTITUENT
A	Liquid Hazardous Waste Containing > Or = To 50 PPM PCBs
B	Hazardous Waste Containing > Or = To 1000 Mg/L HOCs
C	Liquid Hazardous Waste Containing > Or = To 134 Mg/L Nickel
D	Liquid Hazardous Waste Containing > Or = To 130 Mg/L Thallium

TREATABILITY GROUP CODES

CODE	CONSTITUENT
WW	Wastewater
NWW	Nonwastewater

UNIVERSAL TREATMENT STANDARDS - UNDERLYING HAZARDOUS CONSTITUENTS

CODE	CONSTITUENT	CODE	CONSTITUENT	CODE	CONSTITUENT
1	Acenaphthylene	48	2-Chloronapthalene	95	Diphenylamine
2	Acenaphthene	49	2-Chlorophenol	96	Diphenylnitrosamine
3	Acetone	50	3-Chloropropylene	97	1,2-Diphenylhydrazine
4	Acetonitrile	51	Chrysene	98	Disulfoton
5	Acetophenone	52	o cresol	99	Endosulfan I
6	2-Acetylaminoflourene	53	m-cresol	100	Endosulfan II
7	Acrolein	54	p-cresol	101	Endosulfan sulfate
8	Acrylamide	55	Cyclohexanone	102	Endrin
9	Acrylonitrile	56	1,2-Dibromo-3-Chloropropane	103	Endrin aldehyde
10	Aldrin	57	Ethylene dibromide (1,2-Dibromomethane)	104	Ethyl acetate
11	4-aminobiphenyl	58	Dibromomethane	105	Ethyl cyanide (Propanenitrile)
12	Aniline	59	2,4-D (2,4-Dichlorophenoxyacetic acid)	106	Ethyl benzene
13	Anthracene	60	o,p'-DDD	107	Ethyl ether
14	Aramite	61	p,p'-DDD	108	bis(2-Ethylhexyl) phthalate
15	alpha-BHC	62	o,p'-DDE	109	Ethyl methacrylate
16	beta-BHC	63	p,p'-DDE	110	Ethylene oxide
17	delta-BHC	64	o,p'-DDT	111	Famphur
18	gamma-BHC	65	p,p'-DDT	112	Fluoranthene
19	Benzene	66	Dibenz(a,h)anthracene	113	Flourene
20	Benz(a)anthracene	67	Dibenz(a,e)pyrene	114	Heptachlor
21	Benzal chloride	68	m-Dichlorobenzene	115	Heptachlor epoxide
22	Benzo(b)fluoranthene	69	o-Dichlorobenzene	116	Hexachlorobenzene
23	Benzo(k)fluoranthene	70	p-Dichlorobenzene	117	Hexachlorobutadiene
24	Benzo(g,h,i,)perylene	71	Dichlorodifluoremethane	118	Hexachlorocyclopentadiene
25	Benzo(a)pyrene	72	1,1 Dichloroethane	119	HxCDDs All Hexachlorodibenzo-p-dioxins)
26	Bromodichloromethane	73	1,2-Dichloroethane	120	HxCDFs (All Hexachlorodibenzofurans)
27	Methyl bromide (Bromomethane)	74	1,1-Dichloroethylene	121	Hexachloroethane
28	4-Bromophenyl phenyl ether	75	trans-1,2-Dichloroethylene	122	Hexachloropropylene
29	n-Butyl alcohol	76	2,4- Dichlorophenol	123	Indeno (1,2,3-c,d) pyrene
30	Butyl benzyl phthalate	77	2,6-Dichlorophenol	124	Iodomethane
31	2-sec-Butyl-4,6 Dinitrophenol (Dinoseb)	78	1,2-Dichloropropane	125	Isobutyl alcohol
32	Carbon disulfide	79	cis-1,3-Dichloropropylene	126	Isodrin
33	Carbon tetrachloride	80	trans-1,3-Dichloropropylene	127	Isosafrole
34	Chlordane (alpha & gamma isomers)	81	Dieldrin	128	Kepone
35	p-Chloroaniline	82	Diethyl phthalate	129	Methacrylonitrile
36	Chlorobenzene	83	2-4-Dimethyl phenol	130	Methanol
37	Chlorobenzilate	84	Dimethyl phthalate	131	Methapyrilene
38	2-Chloro-1,3-butadiene	85	Di-n-butyl phthalate	132	Methoxychlor
39	Chlorodibromomethane	86	1,4-Dinitrobenzene	133	3-Methylcholathrene
40	Chloroethane	87	4,6-Dinitro-o-cresol	134	4,4-Methlene bis(2-Chloroaniline)
41	bis(2-Chloroethoxy)methane	88	2,4-Dinitrophenol	135	Methylene chloride
42	bis(2-Chloroethyl) ether	89	2,4-Dinitrotoluene	136	Methyl ethyl ketone
43	Chloroform	90	2,6-Dinitrotoluene	137	Methyl isobutyl ketone
44	bis(2-Chloroisopropyl) ether	91	Di-n-octyl phthalate	138	Methyl methacrylate
45	p-Chloro-m-cresol	92	p-Dimethylaminoazabenzene	139	Methyl methansulfonate
46	2-Chloroethyl vinyl ether	93	Di-n-propylnitrosamine	140	Methyl parathion
47	Chloromethane (Methyl Chloride)	94	1,4 Dioxane	141	Napthalene